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(they/them/theirs)  
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# SUPPORTING NONBINARY PEOPLE IN SPACE SCIENCE



# ABOUT THE SPEAKER

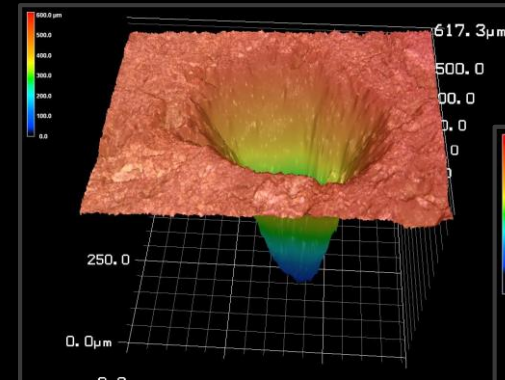
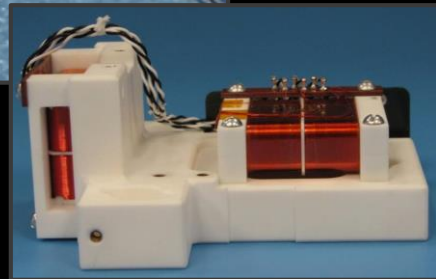
## Background:

- Ph.D. in Geophysics, UMN
- Postdoc & Lab Manager in Earth & Planetary Science, Rutgers University
- NRC Postdoctoral Fellow in Functional Nanostructured Materials, NIST
- *Now:* Research Scientist at NIST & NASA GSFC

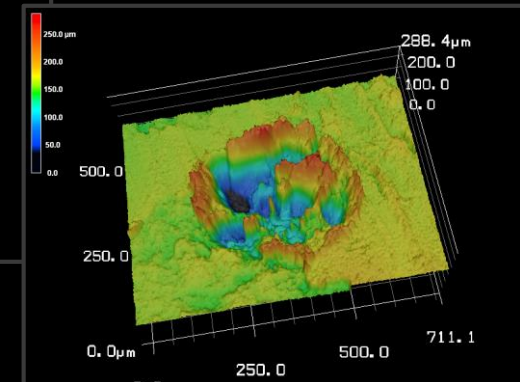
**Current Projects:** Calibration & benchmarking instrumentation; Collaborator on GEODES



*Images courtesy of D. Sheppard*



*Images courtesy of F. Cattani*



...and also, I'm nonbinary.

Throughout this presentation, I will use 'nonbinary' as an umbrella term meaning  
**"all genders not represented by the categories of male or female"**.

Not everyone whose gender falls under this definition uses the term 'nonbinary' to describe themselves, and language surrounding gender identity is continually evolving and rarely universally agreed upon by those it purports to describe. (Rasmussen et al., 2019)

More information: <https://transequality.org/issues/resources/understanding-non-binary-people-how-to-be-respectful-and-supportive>

# WHY ARE WE TALKING ABOUT THIS?

## The Nonbinary Fraction: Looking Towards the Future of Gender Equity in Astronomy

*A State of the Profession Consideration*

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<https://arxiv.org/pdf/1907.04893.pdf>

## MAIN FINDINGS FROM ASTRO2020

1. Efforts toward gender equity in space science primarily target and benefit **cisgender, white, heterosexual, abled women.**  
*(not transgender)*
2. Space scientists are **not** experts in gender studies or social science. As a result, they often use methods that are **sloppy at best and harmful at worse.**
3. There are nonbinary and transgender people in astronomy and related fields, and we want to be included!



# PROBLEMATIC METHODS

## 1. Gender as observable

- Acquiring gender information by means other than participant self-identification
- First name scrapers, photos, gender perception in real time

**The problem:** These methods result in misgendering and erasure, *especially* for nonbinary people, who are either misclassified or discarded.

## 2. Gender as discrete

- Gender is treated as a set of discrete categories presumed to be stable and coherent across populations, within individuals, and over time
- Most studies require gender to be either binary or discretizable

**The problem:** This reduces members of a category to interchangeable data points, which denies people authority over how they are represented.

# PROBLEMATIC METHODS

## 3. Gender as statistic

- “While we recognize that gender is not binary, we do not include nonbinary people in our analysis due to lack of statistical significance.”

**The problem:** These methods make statistical significance the determining factor in who matters. They are also *wrong*...

## 4. Gender as inconsequential

- Gender groupings like “women and nonbinary people”, “women+”, “female, nonbinary, and female-identifying people”

**The problem:** Nonbinary people are not a subcategory of women. These phrases also attempt to separate transgender women from cisgender women and incorrectly imply that they are not women.

# NEW FINDINGS

- Goddard Climate Survey (LGBT Advisory Council, NASA GSFC)
  - 2018: 1.1% of respondents identified as neither male nor female
  - 2020: 0.5% of respondents identified as neither male nor female
- DPS (AAS) Workforce Survey
  - 2011: No questions about LGBTQ+ identities
  - 2019: 1.1% of respondents identified as nonbinary or other identity (incl. students)
- Space Science in Context Conference
  - 2020: 13% of respondents identified as nonbinary, 10% of presenters and speakers expressed preference for nonbinary pronouns

**There are lots of nonbinary people in space science!**



# TOP RECOMMENDATIONS

1. Do not gather gender data through any means other than **voluntary self-identification**.
  - Do not use automated gender classification methods.
2. Employ or consult trained **social scientists** when studying marginalized people in planetary science.
  - Funding agency? Put money here.
3. Shift focus from women to **people of marginalized genders**.
4. Do not let suggestions or platitudes be the end – the only thing that will bring about change is **action**. This means **material support** for the most marginalized and vulnerable members of our communities.

# FURTHER READING

- Inclusive Astronomy 2015 Recommendations (AKA the “Nashville Recommendations”)
  - <https://docs.google.com/document/d/1JipEb7xz7kAh8SH4wsG5gCHEaAJSJTAWRfVA1MfYGM8/edit>
- LGBT+ Inclusivity in Physics and Astronomy: A Best Practices Guide
  - <https://arxiv.org/abs/1804.08406>
- LGBT Climate in Physics: Building an Inclusive Community
  - <https://www.aps.org/programs/lgbt/upload/LGBTClimateinPhysicsReport.pdf>

# Nonbinary Systems

## Looking Towards the Future of Gender Equity in Planetary Science

*A State of the Profession White Paper for the  
Planetary Science and Astrobiology Decadal Survey 2023-2032*

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**Abstract:** Gender equity remains one of the biggest issues facing the field of planetary science, and there is broad interest in addressing gender disparities within space science and related disciplines. Many studies of these topics have been performed by professional planetary scientists who are relatively unfamiliar with research in fields such as gender studies and sociology. As a result, they adopt a normative view of gender as a binary choice of 'male' or 'female,' leaving planetary scientists whose genders do not fit within that model out of such research entirely. Reductive frameworks of gender and an overemphasis on quantification as an indicator of gendered phenomena are harmful to people of marginalized genders, especially those who live at the intersections of multiple axes of marginalization such as race, disability, and socioeconomic status. In order for the planetary science community to best serve its marginalized members as we move into the next decade, a new paradigm must be established. This paper aims to address the future of gender equity in planetary science by recommending better survey practices and institutional policies based on a more profound approach to gender.

Background image: Titan and its atmosphere. Source [here].

## Coming soon to a Decadal Survey near you!

Co-sign (and sign up to receive an email copy) here:

<https://forms.gle/BCPawKrMsoHArE5K8>

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